

# Introduction to Java

## Welcome to the Coders.Bay

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# Lukas Wais

- HTBLA Traun für Informations - und Kommunikationstechnik
- Webdeveloper und System Administrator 4YOUcard
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# Code is everywhere



Figure: Electronic Devices



# Computer on Wheels



Figure: Electric Car



# What are Programming Languages?

## Definition (Programming Language)

A programming language is a formal language comprising **a set of instructions** that produce various kinds of output. Programming languages are used in computer programming to implement algorithms. [1]



# Script Languages

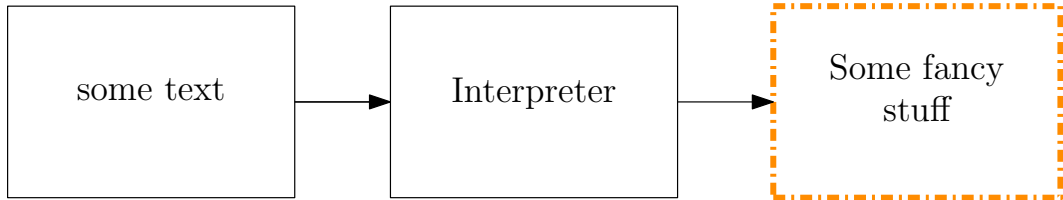


Figure: Interpretation of Scripted Languages

# Script Languages - Examples

- Shell Script
- Batch Files
- PHP
- JavaScript





# Compiled Languages

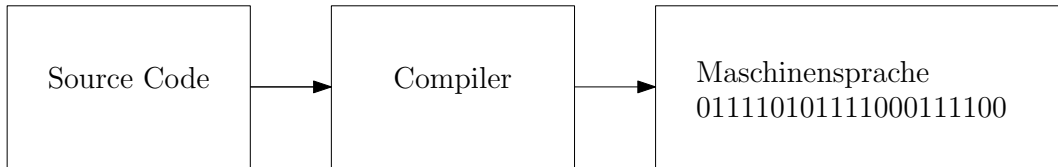


Figure: Compilation Process

# Compiled Languages - Examples

- C
- C++
- **Java**
- Go



# Java Compilation

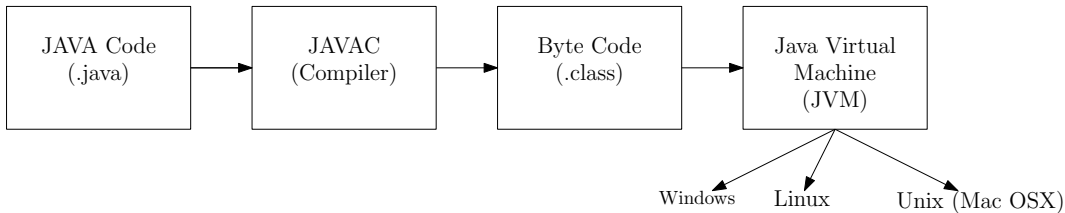


Figure: Compilation Process



# Whats is Java?



This is Java

# Java is an Island



Figure: Java Island



This is Java

# But this is also Java

```
@Override
public boolean equals(Object obj) {
    if (obj instanceof Person) {
        Person other = (Person) obj;
        return this.lastname.equals(other.lastname)
            && this.firstname.equals(other.firstname);
    }
    return false;
}
```

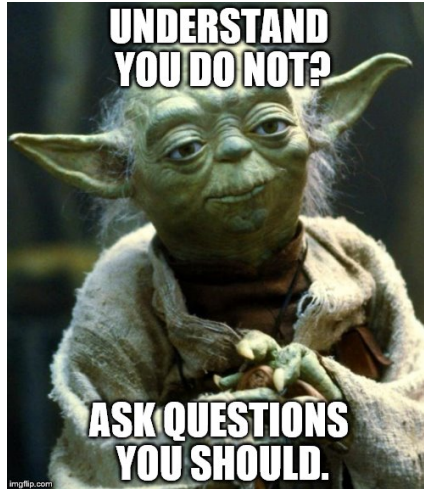


# Java Versions

- JDK ... Java Development Kit → for developing JAVA applications.
- JRE ... Java Runtime Environment → for running JAVA applications.
- JDK Versions > 8.



## This is Java





This is Java

# Hello World

```
System.out.println(" Hello World");
```



# Download openJDK

- AdoptOpenJDK [Download](#)



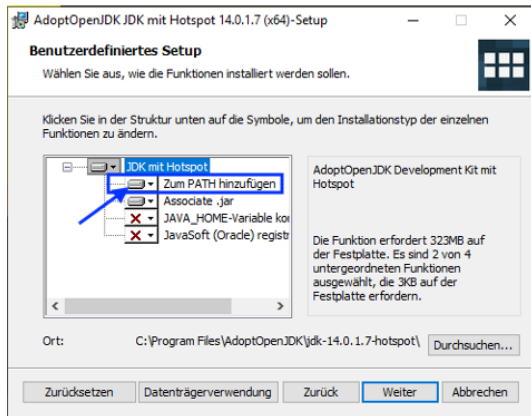


Figure: openJDK Installation

# Verify Installation

- Open CMD and run **javac**
- The c by javac stands for compile.
- To see more details about it type **javac -help**.
- You can also check out the official docs [here](#).



- You should have an output similar to this picture:



Figure: Output javac



# The Editor

For the beginning we are using geany. Later on we are switching towards to IntelliJ.

Download it from one of the following links:

- [geany.org](http://geany.org)
- [geany.sexy](http://geany.sexy)

Some handy plugins can be found here:

- [plugins.geany.org](http://plugins.geany.org)



## Now it's your turn



- Print out Hello World to the command line.
- Afterwards print out your name.





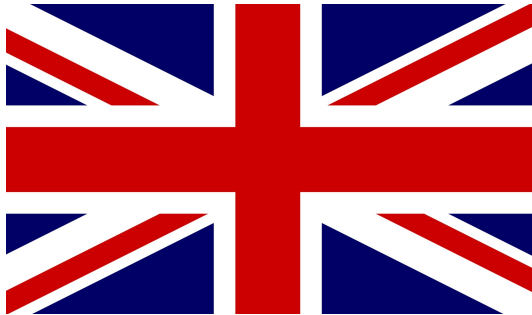
# Coding Standards

Martin Fowler said:

„Any fool can write code that a computer can understand.  
Good programmers write code that humans can understand.“



# English



- variables, comments and classes **MUST** be named in English



# Coding Style

```
private int calc (int x, int y) {  
    return x + y;  
}
```

Egyptian Brackets

```
private int minus (int a, int b)  
{  
    return a - b;  
}
```

Do NOT do this



# Comments and Style

```
public class Example{  
    // rectangle  
    private double height = 3.4;  
    private double width = 2.5;  
  
    // PascalCasing & lowerCamelCase  
    private String workshopName= "Roboterbau";  
  
    // constant  
    private static final int WEEKDAYS = 7;  
}
```

- Use tabs not whitespaces.
- Camel Casing.
- Classes and types Pascal Casing.
- Constants upper case.
- Do not use underscores  
temp\_kelvin → old style



## Remember

Java is platform **independent**. Compile once run everywhere.



# How to save Code Snippets

Check out the provided links. Saving useful snippets can become really handy in the future.

- Github Gist

Those are some clients for it:

- Lepton
- A list of clients



Save Code Snippets

# Discord

● Join our server [Join](#)





Wikipedia contributors, “Programming language — Wikipedia, the free encyclopedia.” [https://en.wikipedia.org/w/index.php?title=Programming\\_language&oldid=962885882](https://en.wikipedia.org/w/index.php?title=Programming_language&oldid=962885882), 2020.  
[Online; accessed 18-June-2020].

