

# Java Lab 2022 Experiment

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Java Lab Experiment 2022

Research Group for Industrial Software (INSO)  
<https://www.inso.tuwien.ac.at>



# Welcome and Overview

## Research Collaboration between



# Welcome and Overview

- Experiment to test new teaching methods – **this is not a test**
- Teaching Java programming
- Duration: 2,5 hours
- IntelliJ and resources are available on GitHub

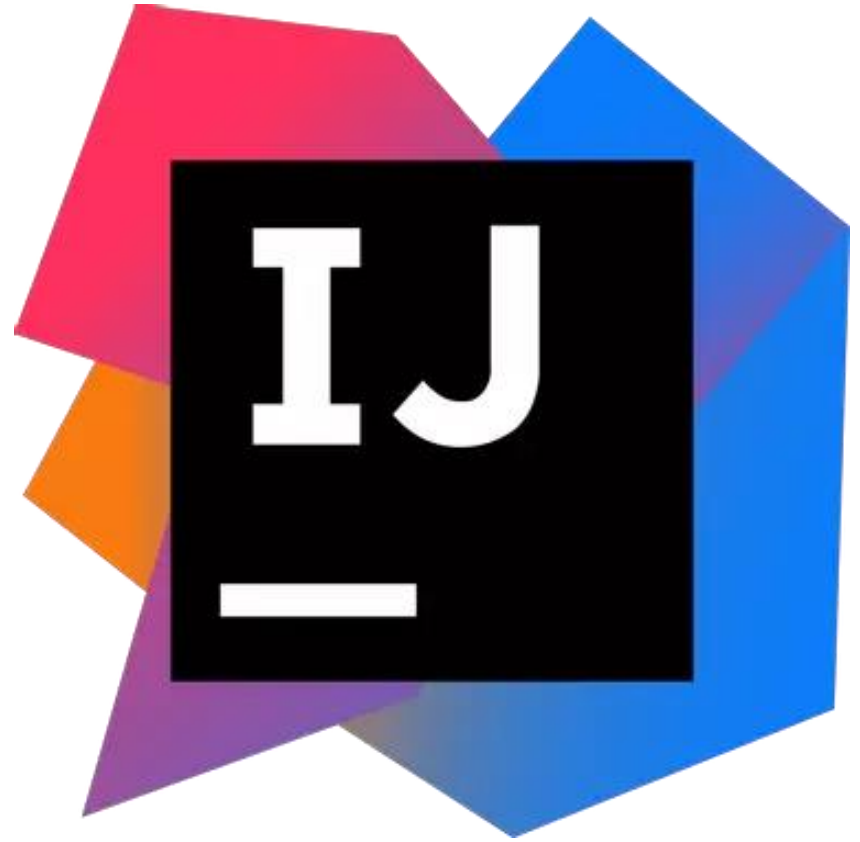
## Course of Action

1. Students get instructions to solve a programming assignment
2. Students solve the assignment – **not a test and ask questions!**
3. Assignment showcase by teachers
4. We collect feedback from students

# Showcase IntelliJ

Should already be installed on your computer

Project should be available as well, if not then go to  
“File > Open Recent > OOP-  
Java-Lab-2022”



# Showcase GitHub

All resources and later all solutions for you to study will be available on GitHub:



<https://github.com/RIT-at-SSE/OOP-Java-Lab-2022>



# Theory

- Assignment description:

**Write a Java program that prints all real solutions to the quadratic equation  $ax^2+bx+c=0$ .**

**Read in a, b, c and use the quadratic formula.**

- What is now to do?
  - 1. Read in variables a, b and c**
  - 2. Calculate the equation**
- Follow the instruction in the file and complete the TODOs

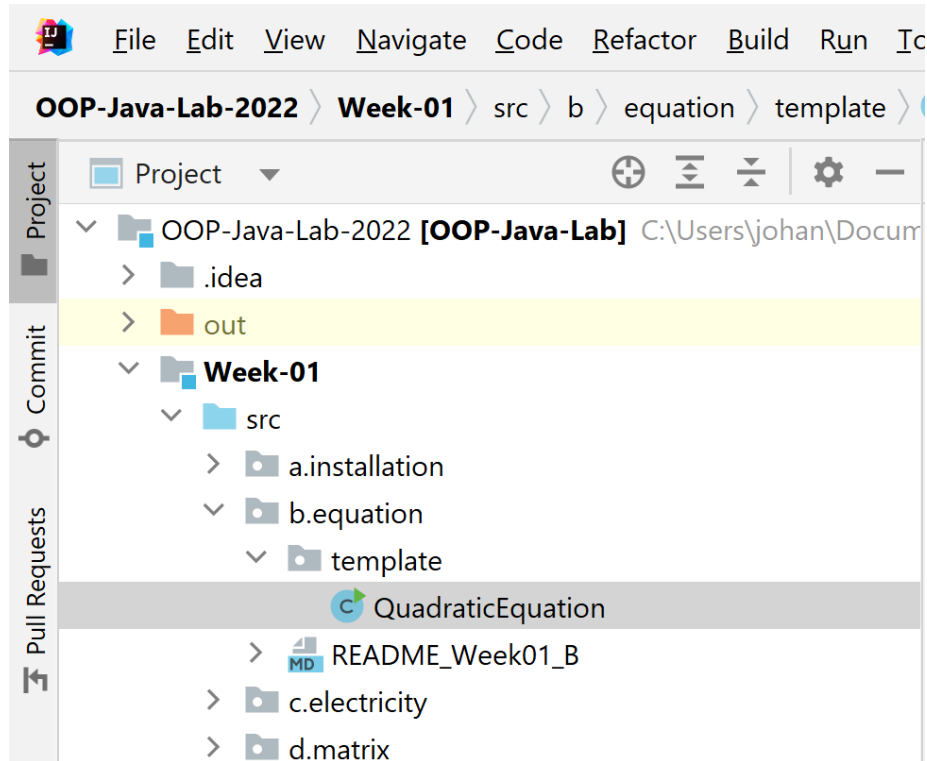
*// TODO: read in b the same way as a*

*double b = 0; // change this line here*

# Tips and Tricks

- How do you read in variables?
- How can you calculate the determinant?
- ...
- Look into the **README** file for information and further resources
- **Now you have 1 hour to work on the assignment on your own**

# Working Time



Ask questions! We can help you

Solve assignments on your own or in groups



# Taking Pictures

- QR Code with group, instructions
- [shorturl.at/eKM19](https://shorturl.at/eKM19)



# Week 1 C

- Assignment description:

**Develop a Java application to generate Electricity bills.  
[...] (more info in the README)**

- Template and solution is available, try it yourself after class
- Key Learnings
  - Java Classes
  - Java Objects
  - **Object orientated programming**

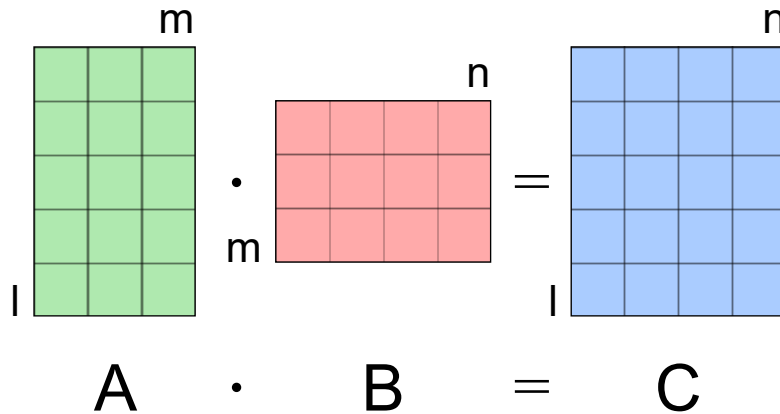
# Week 1 D

- Assignment description:

Write a Java program to multiply two given matrices. **(more info in the README)**

- Template and solution is available, try it yourself after class
- Key Learnings
  - Loops in Java
  - Arrays in Java

# Week 1 D



```
int a[][] = {{1, 1, 1},  
              {2, 2, 2},  
              {3, 3, 3}};
```

```
int b[][] = {{1, 1, 1},  
              {2, 2, 2},  
              {3, 3, 3}};
```

<https://math.tools/calculator/matrix/multiplication/>

# Feedback

- QR code + Link
- [shorturl.at/rtyUX](https://shorturl.at/rtyUX)



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